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PROTOCADHERIN ALPHA GENE POLYMORPHISMS IN BIPOLAR DISORDER. RESULTS FROM THE CZECH COHORT

T. Novak[1], P. Stopkova[1], E. Pedrosa[2], H. Lachman[2]

[1]Prague Psychiatric Center, Prague, Czech Republic, [2]Department of Psychiatry and Behavioral Science, Albert Einstein College of Medicine, New York, USA

Aims: Protocadherins (PCHD) are cell adhesion proteins with an important role in neuronal migration, differentiation and synaptogenesis. The linkage studies suggest that the 5q31-linked protocadherin family locus should be considered as potential candidate locus in schizophrenia and bipolar disorder. In this study, we focused particularly on single-nucleotide polymorphisms (SNPs) located in PCHDα enhancer. Results from the Czech cohort of patients with bipolar disorder (BD) will be presented.

Methods: Unrelated inpatients and outpatients with BD based on Schedule for Affective Disorders and Schizophrenia - Lifetime (n=167) and blood bank donors as control subjects (n=211) were recruited in the study. Four SNPs posted in dbSNP (rs31745, rs10036519, rs3756337 and rs59497) in the PCDHα gene enhancer were analyzed. The data sets were analysed using a case control design.

Results: In case of SNP, rs31745, a significant increase in homozygosity for the minor allele (T) was detected in patients with BD; 5% had this genotype, but no controls (p=0.001). The distribution of allels did not differ between patients and controls. No significant differences were found in allele or genotype distribution for three other SNPs.

Conclusions: The findings suggest that the PCHDα is an interesting gene family to consider in BD susceptibility.

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